

WHAT IS CLAIMED IS:

1. An apparatus, comprising:
first and second power sources;
a control circuit coupled to the first power source to control the operation of the apparatus, the control circuit being adapted to receive power from the first power source; and
a communication circuit coupled to the second power source to communicate with an external device, the communication circuit being adapted to receive power from the second power source.
2. The apparatus of claim 1, wherein the first power source comprises a battery.
3. The apparatus of claim 2, wherein the battery comprises at least one of a Li/CF_x-CSVO, Li/CSVO, Li/CF_x, Li/MnO₂, Li/I₂, and Li/SOCl₂ battery.
4. The apparatus of claim 1, wherein the second power source comprises a rechargeable battery.
5. The apparatus of claim 4, wherein the rechargeable battery comprises at least one of a lithium-ion and a nickel/metal-hydride battery.
6. The apparatus of claim 1, further comprising:
a switch for coupling the first power source to the communication circuit upon occurrence of a first predetermined event.
7. The apparatus of claim 6, wherein the first and second power sources have a remaining power level associated therewith, the apparatus further comprising:
a sensor for sensing the remaining power level of at least one of the first power source and second power source.
8. The apparatus of claim 7, wherein the first predetermined event includes the sensor sensing the remaining power level of the second power source being below a remaining power level threshold.

9. The apparatus of claim 7, wherein the switch includes means to couple the second power source to the control circuit upon occurrence of a second predetermined event.
10. The apparatus of claim 9, wherein the second predetermined event includes the sensor sensing the remaining power level of the first power source being below a remaining power level threshold.
11. The apparatus of claim 1, wherein the control circuit further is adapted to obtain physiological data of a patient in which the apparatus is implanted.
12. The apparatus of claim 11, wherein the communication circuit includes means to transmit the physiological data to the external device.
13. The apparatus of claim 11, wherein the communication circuit includes means to receive programmed instructions from the external device.
14. The apparatus of claim 11, further comprising a high-power output circuit coupled to the central circuit to deliver a therapy to the patient depending on the physiological data obtained from the control circuit.
15. The apparatus of claim 14, wherein the high-power output circuit receives power from the first power source.
16. The apparatus of claim 15, wherein the first power source comprises a high-rate cell and a low-rate cell.
17. The apparatus of claim 15, wherein the high-rate cell provides power to the high-power output circuit and the low-rate cell provides power to the control circuit.
18. An implantable medical device, comprising:
a control circuit to control the operation of the implantable medical device and to obtain physiological data from a patient in which the implantable medical device is implanted;
a communication circuit coupled to the control circuit to transmit the physiological data to an external device;

a first power source coupled to the control circuit to provide power to the control circuit; and a second power source coupled to the communication circuit to provide power to the communication circuit.

19. The implantable medical device of claim 18, wherein the first power source comprises a battery.

20. The implantable medical device of claim 19, wherein the battery comprises at least one of a Li/CF_x-CSVO, Li/CSVO, Li/CF_x, Li/MnO₂, Li/I₂, and Li/SOCl₂ battery.

21. The implantable medical device of claim 18, wherein the second power source comprises a rechargeable battery.

22. The implantable medical device of claim 21, wherein the rechargeable battery comprises at least one of a lithium-ion and a nickel/metal-hydride battery.

23. The implantable medical device of claim 18, further comprising:
a switch to couple the first power source to the communication circuit upon occurrence of a first predetermined event.

24. The implantable medical device of claim 23, wherein the first and second power sources each have a remaining power level associated therewith, the device further comprising:
a sensor coupled to the first and second power sources to sense the remaining power level of at least one of the first power source and second power source.

25. The implantable medical device of claim 24, wherein the first predetermined event includes the sensor sensing the remaining power level of the second power source being below a remaining power level threshold.

26. The implantable medical device of claim 24, wherein the switch couples the second power source to the control circuit upon occurrence of a second predetermined event.

27. The implantable medical device of claim 26, wherein the second predetermined event includes the sensor sensing the remaining power level of the first power source being below a remaining power level threshold.

28. A method for incorporating a power source in an implantable medical device, comprising the steps of:

providing power to a control circuit by a first power source, the control circuit obtaining physiological data of a patient in which at least the control circuit is implanted;

providing power to a communication circuit by a second power source; and

transmitting the physiological data from the communication circuit to an external device.

29. The method of claim 28, further comprising:

sensing a remaining power level of the second power source;

determining if the remaining power level has fallen below a predetermined threshold; and

providing power to the communication circuit by the first power source in response to determining that the remaining power level has fallen below the predetermined threshold.

30. The method of claim 28, further comprising:

sensing a remaining power level of the first power source;

determining if the remaining power level has fallen below a predetermined threshold; and

providing power to the control circuit by the second power source in response to determining that the remaining power level has fallen below the predetermined threshold.